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TITLE: Opposite behavior of CD8⁺ T cells in blood and tumor tissue of ovarian cancer patients

AUTHORS (FIRST NAME, LAST NAME): An Coosemans^{2, 1}, Thais Baert^{2, 1}, Pieter Busschaert⁵, Godelieve Verbist³, Anne-Sophie Van Rompuy⁴, Chiara Landolfo³, Dirk Timmerman^{2, 3}, Ignace Vergote^{2, 5}

INSTITUTIONS (ALL):

1. Department of Oncology, Laboratory of Tumor Immunology and Immunotherapy, KU Leuven, Leuven, Belgium.
2. Gynaecology and Obstetrics, UZ Leuven, Leuven, Belgium.
3. Department of Development and Regeneration, Laboratory of Organ Systems, KU Leuven, Leuven, Belgium.
4. Department of Pathology, UZ Leuven, Leuven, Belgium.
5. Department of Oncology, Laboratory of Gynecologic Oncology, KU Leuven, Leuven, Belgium.

ABSTRACT BODY:

Objectives: Ovarian cancer is a silent killer, metastasising throughout the abdomen before causing symptoms. So far, research concerning the immune system in ovarian cancer has focussed on the intratumoral immune changes. The peripheral immune landscape in ovarian cancer remains largely undiscovered.

Methods: In 39 patients with invasive ovarian cancer, blood was taken at diagnosis. Simultaneously, a tumor biopsy from the primary tumor and/or metastasis was prelevated in 31 of them. Activated CD8⁺ T cells (CD8⁺CD69⁺) were measured in blood, CD8⁺ TIL (tumor infiltrating lymphocytes) were stained in tumor tissue.

Results: A high amount of CD8⁺ TIL (above lowest tertile) resulted in an increased progression free (PFS) and overall survival (OS). In contrast, an increase in CD8⁺CD69⁺ T cells in blood resulted in a decrease of PFS and OS. The curve matching blood and tumor tissue samples demonstrated an inverse correlation between the presence of CD8 T cells in blood versus tumor.

Conclusions: This study demonstrates for the first time a relationship between locally and systemically measured tumor immunity. This opens new perspectives to use immune cells as a liquid biopsy in the diagnosis of ovarian cancer.

Additional details

KEYWORDS: Ovary, Biochemical markers, Gynecological oncology.

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